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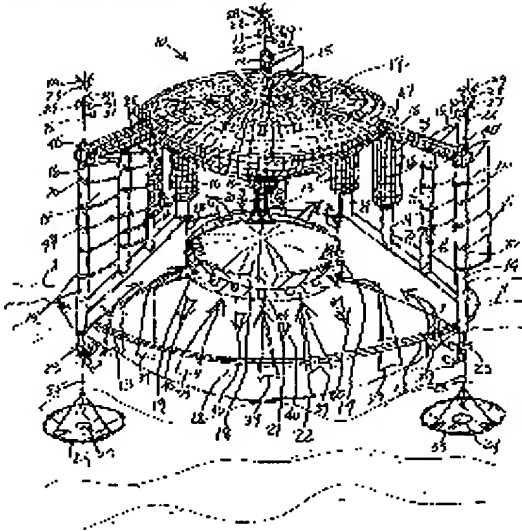
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(12) Patent Application:

(11) CA 2342378

(54) WASER

(54) WASER

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ABSTRACT:

WASER is the acronym for a wave LASER, a symbolic replica that combines an ocean space station and a large scale inexhaustible hydrogen fuel rig, to form vibrant energy self-sufficient ocean cities on the move, trading with the rest of the world comprising: a hurricane storm dwarfing scale sophisticate computer controlled robot specifically adapted to harness the sun in its basic forms of solar, wind and waves, at once, day and night, and to exploit the highest energy areas in the oceans with immunity to hurricane force storms and tsunamis. A submersible circular-elliptical reinforced concrete vessel having three radially extending wave intensification walls and concentrically a reinforced concrete circular elliptical float reciprocating indexed to said radial wall's inner face steel tracks to provide a means to harness wave energy, by driving a plurality of radially disposed hydraulic pumps to power electric generator and liquefied hydrogen production. A plurality of remotely controlled pivoted

airfoil blades adapted to tubular reinforced concrete towers, also remotely controlled hydraulic motor driven propellers, as means of propulsion and improved wave energy harnessing. At least three circular-elliptical reinforced concrete hydrodynamic anchors to provide vessel stability in hurricane stormy oceans and tsunamis. Circular residential high-rise buildings adapted to said tubular towers along said wave intensification walls, also providing support to a circular-elliptical main residential building interconnected internally, by means of elevators. Three helicopter airports along the rooftop of the residential buildings interconnecting said tubular towers. Lightening arresters and a wide variety of transducers, communications, for sophisticated computer control operation and wave energy synchronization for improved efficiency. Symbolically, the WASER has the ability to beam energy in the form of hydrogen conveniently processed, to depots anywhere inland or in the oceans, with global position accuracy.

CLAIMS: [Show all claims](#)

*** Note: Data on abstracts and claims is shown in the official language in which it was submitted.

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(57) Abrégé(suite)/Abstract(continued):

its basic forms of solar, wind and waves, at once, day and night, and to exploit the highest energy areas in the oceans with immunity to hurricane force storms and tsunamis. A submersible circular-elliptical reinforced concrete vessel having three radially extending wave intensification walls and concentrically a reinforced concrete circular elliptical float reciprocating indexed to said radial wall's inner face steel tracks to provide a means to harness wave energy, by driving a plurality of radially disposed hydraulic pumps to power electric generator and liquefied hydrogen production. A plurality of remotely controlled pivoted airfoil blades adapted to tubular reinforced concrete towers, also remotely controlled hydraulic motor driven propellers, as means of propulsion and improved wave energy harnessing. At least three circular-elliptical reinforced concrete hydrodynamic anchors to provide vessel stability in hurricane stormy oceans and tsunamis. Circular residential high-rise buildings adapted to said tubular towers along said wave intensification walls, also providing support to a circular-elliptical main residential building interconnected internally, by means of elevators. Three helicopter airports along the rooftop of the residential buildings interconnecting said tubular towers. Lightning arresters and a wide variety of transducers, communications, for sophisticated computer control operation and wave energy synchronization for improved efficiency. Symbolically, the WASER has the ability to beam energy in the form of hydrogen conveniently processed, to depots anywhere inland or in the oceans, with global position accuracy.

TITLE: WASER

FIELD OF THE INVENTION

The harnessing of the sun in the oceans in its
5 three basic forms of solar, wind and waves at once, day
and night, exploiting of the highest energy areas in the
oceans, with immunity to hurricane storms and tsunamis,
wave synchronization and wind propulsion for improved
energy harnessing, with large-scale inexhaustible
10 hydrogen fuel production and the colonization of the
oceans with vibrant ocean cities trading with the rest of
the world, a main objective.

BACKGROUND OF THE INVENTION

15 The high costs of dwindling fossil fuels and
their polluting impact in the environment are a detriment
to global prosperity, social security and to peace on
earth.

Fundamentally, the reasons that make
20 conventional solar, wind and wave energy harnessing
technologies irreversibly obsolete "INLAND" and in
themselves environmentally polluting, no matter how
efficient they may be, is that they remain idle while
those energy forms are not present for long periods of
25 time. Another negative aspect is that they occupy
precious land space and are generally costly to build and
maintain. Consequently, their renewable energy objective
turns out to be deceitful and these technologies become
in themselves a detriment to the environment and social
30 economic prosperity, when compared to the WASER concept.
Another reason that they have not prospered further, is
that their rely on the high costs of dwindling fossil
fuels which did not justify their proliferation,
reinforces these conclusions.

35 As we well know, atomic power plants, coal and
ocean oilrigs, have for a long time provided the bulk of
our electric power and fuel needs. These dwindling fossil
fuel sources have become the lifeblood of our economic

expansion however, while living behind a polluted environment and a sense of social insecurity and economic disparity that also threatens peace on earth, as more and more people compete for these essential energy sources.

5 These limited fossil fuel energy forms, at best provide us with a steppingstone to a potential solution to overcome these fundamental problems. Aware of this dilemma, the scientific community-worldwide have engaged in perfecting the contemporary renewable energy
10 harnessing technologies efficiency and reducing the consumption requirements of engines and other equipment. Also aware of their limitations, apparently they have focused their efforts in fusion and the eventual colonization of outer space. However, outer space is
15 likely at best, a far out potential solution for an elite few, at very considerable risk of their own lives. On the other hand, ocean space "from where we likely came from originally", is right at our doorstep.

A new focus by the global scientific community is
20 urgently needed, to consider the WASER concept, which embodiments of the complimentary invention disclosures provide the solution for this long ignored potential.

From a visionary conceptual viewpoint it is possible to harness the sun in its three conventional perceived forms
25 of solar, wind and waves at once, day and night, and to exploit the highest energy areas in the oceans, in very large quantities, with reinforced concrete vessels of hurricane storm dwarfing scale and tidal wave immunity.

Potentially, these immense structures may include
30 provisions for large-scale production of electric power and liquefied hydrogen fuel, industrial and residential facilities to form vibrant energy self-sufficient ocean city communities, trading with the rest of the world - in a replica of ocean space stations.

35 Six other previous invention disclosures recently filed for patent in Canada describe a "hand winded battery charging timer", "automatic parking transporter", "airliner takeoff-landing assist automatic

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shuttle", "renewable energy vessel mother-ship", a
"radial intensified solar-wind-wave energy harnessing
vessel" and a "shoreline hydrogen-delivery robotic
shuttle" which are complementary to these other three
5 spin-off inventions,

Another important concept in the future of
abundant inexpensive hydrogen and colonization of the
oceans is the conclusion that reinforced concrete is
potentially the ideal abundant building material that
10 permits to build immense structures of intricate design
to withstand the corrosive environment; That it is in the
oceans that this can be best accomplished. Size and shape
particularly in the oceans is of great significance in
order to achieve stability and economy of scale. The
15 properties of water displacement are well known, which
permits us to calculate volumes, aerodynamic shapes and
power ratings with the aid of computers and software
programs by specialists.

Recently, General Motors announced a hockey pack-like
20 substance to provide hydrogen fuel storage for hydrogen-
powered vehicles. DaimlerChrysler, showed on TV robot
operated hydrogen fuel powered vehicle refueling
stations. Ballard Power Corp. and others are known to be
developing a wide variety of hydrogen-powered fuel cells
25 to eventually provide electric power for vehicles,
residential and industrial applications. These actions
clearly illustrate a new trend towards the recognition
and application of the ideal fuel - hydrogen. The
challenge now consists in providing a source of reliable,
30 abundant, inexpensive, inexhaustible hydrogen fuel
"directly from the sun", without going through the
conventional extraction process from other fuel forms or
the polluting of the environment with obsolete costly
technologies.

35 An object of the WASER according to a preferred
embodiment of the present invention is to provide a
circular elliptical submersible reinforced concrete
vessel of hurricane storm dwarfing scale, having radial

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wave intensification walls with a circular elliptical reinforced concrete reciprocating float, a plurality of pivoted airfoil blades that are remotely controlled along said radial walls with a concentric circular elliptical residential building with skylights and photovoltaic panels on the rooftop, heat pump coils in the lower part of the vessel, robotic hydrogen refueling arms for submersible robotic shuttles, roof top airports for HWASP and HWASPMOBILES, in the replica of a vibrant energy self-sufficient ocean space city trading with the rest of the world and capable of beaming their hydrogen fuel with global positioning accuracy, in large quantities, anywhere in the oceans or inland.

Another object is to provide a continuous poured reinforced concrete structure that essentially "except for the reciprocating wave energy harnessing float and the hydrodynamic anchors" forms a single piece, by providing a stainless steel sheet metal rim-fold molding technique that starts from the bottom-up and permits to form a rapid molding process, directly in the ocean, with supply ships encircling the construction site and a swarm of silent hydrogen powered flying robots specifically adapted for the various tasks, in the replica of a swarm of wasps building a nest, according to a computer coordinate system and by hand held communicators operated by construction supervisors, provide an alternative to conventional construction cranes and a means for mass production of any particular size and shape of WASER, in a short time and low cost "possibly a breakthrough for the construction industry everywhere".

Another object is to provide the polished stainless steel imbedded skin with a thin electrolytic gold coat to improve corrosion resistance, reduce friction losses to practical minimum, protect against the attaching of marine life and provide a symbolic perception of an hydrogen fuel golden age of prosperity,

to be applied to all exposed surfaces and residential glass windows, like in conventional high rise buildings.

Another object is to provide a circular elliptical reinforced concrete float that is molded by the basic rim-fold technique, having an internal pump controlled water ballast within a lattice structure formed by radial reinforcing walls, with couplings molded cavities to provide support for radial steel supporting track wheels and for hydraulic piston pumps, so as to permit the float to reciprocate firmly in the presence of the most powerful waves safely, and also provide automatic float weigh control as one alternative for wave synchronization and power rating control, according to the prevailing wave energy.

Another object is to provide molded cavities into the face of the semicircular radial wave intensification walls to install hard steel contact surface chromed tracks for the reciprocating float track wheels, which are bolted down into threaded anchors.

Another object is to provide a plurality of large volume and long stroke hydraulic piston pumps, rated for the application, ideally having a chromed steel tubular shaft with a collar coupling, which are radially installed within the main vessel.

Another object is to provide airfoil blades that are assembled from modules having an interfacing tubular shaft with a coupling roller bearing gears, which provide support and angular automatic computer control when coupled to angular encoded hydraulic control motors remotely computer controlled by servo valves and pressure regulators as means to form an hydraulic clutch action to protect the airfoil blades against excessive force wind gusts while maintaining a proper alignment according to a specific program.

Another object is to provide molded circular cavities into the airfoil pivoting tubular concrete towers as a means to install stationary pivoting gear bearing sections bolted down to threaded anchors into the

concrete to support the airfoil blades having the tubular concrete tower as the leading edge and special airfoil blade clamps with supporting roller bearings riding on the pivoting gear.

5 Another object is to provide a computer coordinate system of the WASER to a particular scale, global positioning and computer lasers guiding beams to assist in the mass production and automatic construction of the WASERs, with the assistance of hydrogen fuel
10 powered flying robots as substitute for conventional cranes and large-scale ocean cargo vessels encircling the construction site for the delivery of bulk building materials, in the replica of a swarm of wasps building a nest to cut down on construction time and costs.

15 Another object is to build the reciprocating float in its respective operating position by the sheet metal molding and a continuous concrete pouring process.

 Another object is to install lightning
20 arresting towers at strategic locations with flashing lights, anemometers, video cameras radar, sonar, inertial navigation systems, global positioning, digital data communications and lasers to measure wave highs, as means to provide early warning and safety, in a replica of early warning weather station.

25 Another object is to provide at least three remotely controlled hydraulic motor powered propellers to permit navigation in the absence of wind, for steering away from coral riffs or icebergs and the like.

30 Another object is to provide at least three hydrodynamic anchors suspended from the hydraulic motor assembly frames as a means to steady the vessel during hurricane force storms and tidal waves.

35 Another object of the invention is to provide a plurality of computer controlled automatic hydraulic systems, electric generators, liquefied hydrogen production and storage facilities for large-scale production of liquefied hydrogen fuel and industrial

production facilities for liquefied hydrogen and pellet fuel derivatives.

Yet another object is to provide a visionary concept to enable specialists in the respective areas of technology to creatively complement the overall project, ideally with Canada providing a coordinating joint development effort with the other industrial nations in reallocating financial and human resources to this promising ocean space project.

SUMMARY OF THE INVENTION

The WASER ocean space station invention according to a preferred embodiment provides a circular-elliptical reinforced concrete submersible vessel of hurricane storm dwarfing scale as a means to coupe with and to take advantage of the high-energy areas in the oceans, with immunity to hurricane force storms and tidal waves. Essentially the ocean space station is a sophisticate immense robot adapted as a multi-function vessel capable of motion in any direction, in which the harnessing of the sun in its three basic forms, day and night, is a primary goal for their conversion into reliable, abundant and inexpensive hydrogen fuel. The remotely computer controlled pivoted airfoil blades provide a sophisticate means of propulsion and to steady the vessel in high winds, ocean currents and to steer away from coral riffs, icebergs and other hazards, assisted if needed by the hydraulic propulsion propellers. A circular elliptical reinforced concrete reciprocating float operates concentrically supported by three sets of track-wheels riding on the surfaces of chromed steel tracks installed on the radial wave intensification walls inner faces and coupled to a plurality of hydraulic piston pumps, which permit to convert the intensified wave energy to electricity and liquefied hydrogen fuel, in large quantities. Three hydrodynamic anchors suspended from the hydraulic motor propeller frames provide a means to help steady the

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vessel in stormy weather and tidal waves while permitting the ocean space station to roam free and navigate according to inertial, global positioning, radar, sonar and other contemporary technology aids. Photovoltaic panels and skylights to provide alternative solar energy harnessing sources ideally cover the concentric residential building rooftop.

From an operational visionary viewpoint the computer controlled hydraulic systems provides a means to control the reciprocating float operation and extent of stroke within precise specific limits and to stop it at any particular position within the preset stroke stops, by simply restricting the hydraulic oil flow. Another important aspect is that the float's weight and rate of displacement can also be precisely controlled to provide a form of wave frequency feedback control in association with the radial wave intensification walls and main vessel level in the water to synchronize the spontaneous incoming waves energy, into a single wave oscillating within the formed cavity "this theory's potential, needs to be confirmed with either computer analysis or working model simulations". This frequency control hypothesis can potentially be automatically computer controlled and applied by means of hydraulic servo valves with reference to transducer feedback control information. The float and submersible vessel operation is also automatically computer controlled which permits to operate at a particular energy level by controlling the amount of water in the water ballasts. This feature provides another important means of wave synchronization to complement the float frequency control and improve wave energy harnessing efficiency, in very sophisticate ways.

Potentially, the mass production of WASERs will take place in the ocean starting with a polished stainless steel sheet metal rim fold technique that provides a molding process and an imbedded skin to prevent the accumulation of marine life, while keeping friction resistance to a practical minimum and permit a

continuous concrete pouring process; while at the time heat pump coils may adapted to the inner metal surface, in the bottom section to provide efficient air conditioning. An electrolytic gold coating on the polished stainless steel surface will likely improve its resistance to corrosion and give the above water-exposed surfaces a look, symbolic of the eventual hydrogen golden age of prosperity. The glass surfaces can also be gold coated in a replica of modern high-rise buildings. From an architectural view point the application of steel and glass to achieve strong light weigh corrosion resistant structure to suit the needs of an ocean space city riding on a vessel with provisions to prevent it from sinking in the event that all it's submersible control systems fail, with provisions to recycle all waist and with their own water purification and hydrogen fuel reserves to meet eventual emergencies; these details will be complemented by the expertise and creativity of engineers and architects in a team effort.

Further to the method of WASER mass-production according to a visionary plan, the silent hydrogen powered flying robots, in the symbolic replica of "a swarm of wasps building their nest" with reference to a coordinate computer program, laser beams, global positioning, inertial navigation and autopilots; oil tankers converted to supply ships of cement, sand and other building materials and as factory ships for sheet metal forming, airfoil production and the like as necessary, encircling the construction sites in the ocean; with construction supervisors also providing remote control to the flying robots according to hand-held-computer communicators. These immense scale structures can potentially be built without the aid of cranes and in the process, possibly revolutionize the construction industry with record construction times and low cost.

Yet another object is to provide tubular triangular stainless steel robotic booms with refueling

facilities for ROBOTIC TRANSPORTERS and submersible hydrogen-delivery robotic shuttles, which are interconnected to the hydrogen production and storages provide within vessel 12, by extending from the wave intensification walls, in a replica of specially adapted hydrogen refueling stations, with the circular-elliptical shuttles being held in position by giant vacuum operated suction cups that extend down.

10 BRIEF DESCRIPTION OF THE DRAWINGS

Preferred embodiments of the invention are shown in the drawings, wherein:

FIG. 1 is a front elevation view of the WASER apparatus according to the present invention floating on a body of water.

FIG. 2 is a simplified view of the WASER in FIG. 1 basically forming a single piece of reinforced concrete structure with the addition of residential building frames configured to achieve minimal wind resistance and out of reach of wave action.

FIG. 3 is an upside down view of the wave energy-harnessing float to show the radial supporting track wheels and couplings to the hydraulic piston pumps.

FIG. 4 is a top view of a hydrodynamic anchor to provide a means of stabilization of the vessel in hurricane force storms.

FIG. 5 is a front elevation of one of three chrome plated hard steel tracks for the float track wheels indexing to the radial wave intensification walls inner faces, having end stops to limit up down stroke.

FIG. 6 is a side view of one set of three track wheels to support the wave energy-harnessing float against the pounding force of the waves.

FIG. 7 is a lateral general view of a remotely controlled hydraulic motor driven propeller, driven by an encoded hydraulic servomotor and a frame to suspend a hydrodynamic anchor.

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FIG. 8 is one of a plurality of airfoil blade mounting-bracket having three track wheels.

FIG. 9 is a view of one of the track wheels in FIG. 8 showing the lower part needle bearings and mounting bracket in a mirror image of the top parts.

FIG. 10 is one of a plurality of track gearwheels to provide remote control to the pivoted airfoil blades.

FIG. 11 is one of a plurality of track gearwheels that are bolted down to the tubular reinforced concrete airfoil blades pivoting towers to provide support and reference to the airfoil blades encoded servomotors.

FIG. 12 is a general view of two airfoil blade modules joined together to show the relative position of the track gearwheels of FIG. 10 and servomotor coupling means.

FIG. 13 is one of a plurality of steel bracket steel couplings for the hydraulic piston pumps, which are bolted to the float molded cavities with threaded anchors.

FIG. 14 is one of a plurality of hydraulic piston pumps with a top-mounting bracket to be bolted down to the inside of the submersible vessel molded cavities as a means to convert the wave energy to hydraulic pressure to drive electric generators, compressors, pumps and the like.

FIG. 15 is a side cut view of a section of concrete with an imbedded stainless steel rim-fold skin as a means to provide molding shape, reduced friction losses, an interface for heat pump coils and protection against the attachment of marine life.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

With reference now to the drawings, and in particular to FIGS. 1 through 15 thereof, a radially intensified wave energy harnessing vessel configured to form a ocean space station city and a symbolic hydrogen

fuel rig, with the acronym WASER by also relating to a wave LASER, in its mode of operation according to the present invention. A ocean space station circular-elliptical submersible reinforced concrete vessel of hurricane storm dwarfing scale, generally shown as 10 is shown floating on water body 11. The submersible main vessel 12 has three radial reinforced concrete wave intensification walls 13 at 120 degrees, with a plurality of reinforced concrete tubular towers 14 for the installation of remotely controlled pivoted airfoil blades 15 and circular residential buildings 16, which are internally interconnected to a main residential circular-elliptical elevated central building generally shown as 17 on the main vessel 12. A reciprocating circular-elliptical reinforced concrete wave energy - harnessing float 18 indexed to the inner surfaces of radial walls 13 by means of three steel track-wheel sets 19 riding on three chrome-plated steel tracks 20 and a plurality of radially disposed hydraulic piston pumps 21 within a semi-circular-elliptical cavity 22 which permits to form an overall circular-elliptical frame, once float 18 is fully in the retracted position.

Circular-elliptical submersible vessel 12 has computer controlled airfoil blades 15 and remotely controlled hydraulic motor powered propellers 23 as means of propulsion radially in any direction, individually or in combination as a means to exploit the highest energy areas in the oceans and to steer clear of coral riffs and icebergs, if needed. The airfoil blades 15 ideally, remain aimed to provide a force in the opposite direction of the prevailing waves, as a means to counter their impact and increase their energy. Three large-scale circular-elliptical reinforced concrete hydrodynamic anchors 24 suspended from a bracket in the hydraulic powered propellers 23 frame, by means of strong cables 25, provide stabilization of the WASER in hurricane force stormy oceans and tidal waves, while permitting the vessel to navigate in any direction according to computer

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control, in the replica of an immense robot according to specific data from communications and input form transducers. Three high-rise lightening arresting towers 26 with communication antennas 27, anemometers 28, 5 warning flashing lights 29, with radar 30, lasers 31 and video cameras 32 provide in addition to inertial navigation 33, sonar 34 and under water video cameras 35 installed in the main vessel 12, and satellite global positioning system 36, communications via the worldwide- 10 web 37, to form an early warning weather scientific ocean space station and provide computer input information for robotic operation and maximum energy harnessing efficiency.

The three horizontal radial circular buildings 15 16 have a rooftop airport 38 each, for ROBOTIC MOBILE flying robots; describe according to their respective invention disclosures elsewhere, which provide a means of transportation for passengers and cargo with hydrogen fuel in particular; with access to interior. Ideally "the 20 complementary submersible hydrogen fuel-delivery shuttles" will provide hydrogen fuel depot-supertankers to assist in mineral and ocean farming explorations and to deliver hydrogen fuel along the oceans shorelines, in a replica of the GM hokey pack pellets, on a immense 25 scale and with global positioning accuracy, anywhere within the oceans.

Forward pointing arrows 39 show the wave energy direction being synchronized to lift float 18 in their forward push, while backward arrows 40 indicate a 30 feedback wave synchronization force within the formed cavity by the wave intensification walls 13 and the elliptical shaped vessel frame 12, which can be controlled by adjusting the rate of displacement of float 18, its weigh and the submersible level of vessel 12 and 35 vessel speed by automatic computer control to optimize operation efficiency. Overall, the basic design permits to build immensely powerful systems to take advantage of the highest prevailing waves and possibly track hurricane

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storms to exploit their highest energy, by taking in consideration their energy levels while planning construction with computer simulations.

FIG. 2 shows the basic one-piece reinforced concrete vessel frame 10 with steel and glass residential, industrial and commercial apartments according to engineers and architects, assisted by a swarm of silent hydrogen powered robots specifically, adapted for the various tasks and possibly individually controlled by personal remote communicators assigned to respective working professional crews; with the goal of achieving mass-production in record time and low costs, while maintaining top construction standards. A cutout in vessel 12 shows a cross section of a sealed airtight ring shaped tubular cavity 42 with many sealed compartments to ensure that the vessel will not sink in the event that all its submersible control systems failed or damage to the vessel. The numeral 43 indicates a polished stainless steel molding skin applied to all exterior reinforced concrete surfaces by a rim-fold technique to reduce friction and the imbedding of marine life forms. Hydraulic piston pumps 21 are assembled from inside and extend through a plurality of ports 44. Couplings 45 provide means to install the remotely controlled hydraulic motor powered propellers generally shown as 23. Lightning arresting tower 45 base. 46 and entrance doors 47 provide internal access to the lower and upper structures with elevators and possibly "credit-card automatic parking transporters" for the HWASPMOBILES in the symbolic replica of a wasp nest adapted for human habitation, having an overall aerodynamic configuration and construction design specifically adapted for hurricane force storms and tidal waves. The cutouts 48 on wave intensification walls 13 indicate that they form internal space for a wide range of potential applications. The outer tubular reinforced concrete towers 14 have a plurality of molded ring shaped cavities 49 for the installation of a plurality of track-gears 50

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to provide support and reference to the pivoted airfoil blades 15 which are bolted down in sections.

FIG. 3 is the wave energy-harnessing float 18 upside to show with a plurality of couplings 51 to hydraulic pumps 21 imbedded and bolted down into molded cavities 52, better shown by FIG. 13 by means of a collar coupling ring 53. Cutout 54 is intended to show internal walls 55 to provide a strong structure, which can be filled with water by an internal remotely controlled pumping system to achieve a particular specific gravity, according to the prevailing wave energy levels and wave synchronization frequency. The float indexing wheel brackets 19 have at least two guide wheels and are assembled into molded cavities 57, bolted down in position in line with the internal reinforcing walls 55.

FIG. 4 is the reinforced concrete circular-elliptical shaped hydrodynamic anchor 24 molded within the rim-fold stainless steel sheet metal 43 having suspending cables 25 and showing an optional vacuum pump operated suction cup 58 that provides a means to attach to polished surfaces during the WASER construction phase for stabilization on the water surface. The size of port 59 prevents sand accumulation and down settling.

FIG. 5 is a front view of one of three circular hard chrome plated hard steel tracks 20 with end stops 20A that limit the stock within a preset maximum, for the indexing of the float 18 track-wheels 56, which is bolted down to the molded cavity into the face of the of wave intensification walls 13 by means of ports 62.

FIG. 6 is a view of one of three stainless steel brackets 19 with two track-wheels 56 having shafts with needle bearings 60 and reinforcing struts 61 as means of providing indexed support for float 18, with bracket 19 bolted down into the molded cavities 57.

FIG. 7 is a general view of one of at least three remotely controlled hydraulic motor driven propellers 23 with hydraulic motor assembled on a tubular steel frame 64 with a control gear 65 driven by encoded

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hydraulic servomotor 66 for steering purposes when supplied by hydraulic lines 67. Pivoting bracket 68 provides support to cable 25 of hydrodynamic anchor 24 as previously described.

5 FIG. 8 is one of a plurality of airfoil blade 15 supporting track wheel brackets 70 with at least three track gear wheels 50 assembled on needle bearings 71 and 72 on both sides for shaft support into twin brackets 73 to form a strong assembly for support of the heavy
10 airfoils and very strong wind gusts, a plurality of holes 74 provide a means for bolting down the brackets to the airfoil blade modules 15.

FIG. 9 is an assembly view of the track gear wheels 50 of FIG. 8.

15 FIG. 10 is one of a plurality of track gear wheels 75 to provide support and steering to airfoil blades 15 by means of gear teeth 76 which engages a stationary supporting track gear 77 assembled on tubular reinforced concrete towers 14 and engaged by a shaft
20 coupling 78.

FIG. 11 is one of a plurality of gear wheels 77 shown in two sections bolted down into a molded cavity 49 of tubular reinforced concrete tower 14, which provides support and reference to the position of pivoted airfoil
25 blades 15 when engaged by encoded hydraulic servomotors 79 at opposite faces by means of coupling shaft sections 80 as shown by FIG. 12.

FIG. 12 is a general view of two airfoil blade 15 modules joined together showing the relative position
30 of track gear wheels 75 supported by brackets 81 which have tapped matching holes for track wheel brackets 70 to form a strong assembly for each individual module, coupling shafts 80 are joined by couplings 83 and the tubular reinforced concrete towers 14 complement the
35 airfoil blade's leading edge for simplicity and economic purposes. A cutout 84 shows the rim fold technique 85 also being applied to the construction of the airfoil blades to simplify and strengthen.

FIG. 13 is one of a plurality of wave energy harnessing float steel couplings 51 assembled to float 18 into molded cavities 52 and to the hydraulic piston pumps 21 by means of collar coupling 53.

5 FIG. 14 is one of a plurality of hydraulic piston pumps 21 having a chromed steel shaft 86 which protrudes through ports 44 of FIG. 2 with a mounting plate 87 which bolted from the inside of main vessel 12 and two hydraulic oil coupling ports 88 for coupling into
10 automatically controlled hydraulic systems.

FIG. 15 is a cut view of a section of concrete 89 to show the rim-fold molding technique 85 imbedded into the concrete to form a protective skin in sections 43 also showing the relative position of heat pump coils
15 90.

Accordingly, these invention disclosure embodiments provide a visionary concept to inspire experts in the respective areas of technology to complement their objects and possibly exceed them with spin-off inventions
20 of their own creativity and to stimulated the independent evaluation, joint development effort, reallocation of financial and human resources, essential for this supernova of creativity and anticipated legacy of prosperity.

25 Although various preferred embodiments of the present invention have been described herein in detail, it will be appreciated by those skilled in the art, that variations may be made thereto without departing from the spirit of the invention or the scope of the appended
30 claims.

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THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A WASER, the acronym for wave LASER, a symbolic replica of inexhaustible hydrogen fuel oilrigs, with the ability to harness the sun in its three basic forms of solar, wind and wave energy at once, day and night, to exploit the highest energy areas in the oceans, with immunity to hurricane storms and tidal waves, provide energy self-sufficient colonization of the oceans with vibrant ocean space cities trading with the rest of the world and beaming abundant inexpensive hydrogen fuel cargo, anywhere inland or in the oceans, with global positioning accuracy, comprising:

a circular elliptical submersible reinforced concrete vessel of hurricane force dwarfing scale, having three radial wave intensification walls with a concentric circular elliptical reinforced concrete wave energy harnessing float that reciprocates within preset limits up and down indexed to steel tracks installed into the inner face of said radial walls, which is also coupled to a plurality of hydraulic piston pumps installed within said submersible vessel, for the conversion of wave energy into constant hydraulic oil pressure to drive electric generators, large scale production of liquefied hydrogen fuel, hydraulic motors, compressors, water pumps and the like;

said radial wave intensification walls also having a plurality of tubular reinforced concrete towers to provide support to remote computer controlled pivoted airfoil blades adapted to the exterior towers and high rise circular residential buildings on the inner towers which provide support to a main circular elliptical concentric residential building, accessible by the interior tower's elevators, which has photovoltaic panels and skylights forming the rooftop;

horizontal tubular reinforced concrete frames interconnecting said tubular towers at the top with

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circular residential buildings and rooftop helicopter airports, which interconnect the other residential buildings by means of internal elevators and also providing mounting facilities for the installation of lightening arresting towers with communication and radar antennas, anemometers, video cameras, global positioning, lasers, warning lights, and the like as dimmed necessary for precise computer control interface and to form a early warning sophisticate weather ocean space station; at least three remotely controlled hydraulic motor powered propellers to provide displacement and steering in addition to said airfoil blades, if needed, for submersible vessel radial displacement in any direction and as a means to steer clear of coral riffs and icebergs emergencies, automatically according to radar, sonar, video cameras and lasers for navigation and potentially track stormy weather for high wave energy harnessing unprecedented efficiency, by in addition complementing energy synchronization of spontaneous waves energy according to automatic computer control; heat pump coils installed in contact with the interior stainless steel metal skin during the concrete pouring process as a means for providing for efficient air conditioning; at least three hydrodynamic circular elliptical reinforced concrete anchors suspended from said propeller mounting frames by strong flexile cables as means to provide vessel stability in stormy oceans and tidal waves, while in motion; robotic hydrogen refueling facilities for, ROBOTIC TRANSPORTERS and hydrogen-delivery submersible shuttles on tubular steel booms above the wave action extending outward from the wave intensification walls; Automatic parking transporters for ROBOTIC MOBILES, water purification, waste recycling, are other applied contemporary technologies to complement the WASER.

2. The apparatus according to claim 1 wherein said reinforced concrete WASER of hurricane dwarfing scale

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"with the exception of the wave energy harnessing float and the hydrodynamic anchors", forms a single molded concrete piece frame, on which steel frames for residential buildings and the steel towers are applied to.

3. The apparatus according to claim 1 wherein the exterior reinforced concrete surfaces are covered by polished molding stainless steel rim-fold technique, to provide minimal friction resistance, restrict accumulation of marine life forms and provide an interface to the ocean water for heat pump coils for efficient air conditioning.

4. The apparatus according to claim 1 wherein aerodynamic residential building configurations for reduced wind resistance are provided.

5. The apparatus according to claim 1 wherein computer controlled hydraulic systems according to transducers and programs provide a sophisticated means of synchronization of spontaneous waves within the wave intensification area, for improved energy harnessing efficiency.

6. The apparatus according to claim 5 wherein said hydraulic system also provides means to precisely control the speed and position of the wave energy harnessing float within its track limits, as a means to control wave frequency of operation.

7. The apparatus according to claim 5 wherein said hydraulic system also provides a means for the submersible vessel to adjust its level in the ocean as an additional form of wave frequency control to achieve maximum efficiency within its power rating.

8. The apparatus according to claim 1 wherein said remotely computer controlled pivoted airfoil blades provide a propulsion force against the direction of the prevailing waves as a means to further improved wave energy harnessing efficiency and synchronized wave frequency of operation.

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9. The apparatus according to claim 1 wherein said circular tubular reinforced concrete pivoting towers also form the airfoils leading edge.

The apparatus according to claim 9 wherein said pivoting towers also provide track-wheel suspension and indexing reference to the airfoil blades position.

10. The apparatus according to claim 9 wherein said circular tubular towers also provide internal elevators operation for people, cargo and automatic parking of ROBOTIC TRANSPORTERS.

11. The apparatus according to claim 1 wherein said WASER construction begins directly on the ocean surface by the laying of a circular-elliptical section of rim-fold molding stainless steel with supply ships encircling the construction area, vacuum adapted hydrodynamic anchors providing stability and adapted to flying robots as an alternative for construction cranes, according to a computer coordinate system.

12. The apparatus according to claim 1 wherein said central building with skylights and photovoltaic panels rooftop provides a backup energy source to the wind and wave energy for improved overall system efficiency.

13. The apparatus according to claim 1 wherein said wave energy harnessing float weigh may be precisely controlled according to remote automatic computer control of the water level within its water ballasts, as an additional means of wave synchronization frequency control and system power rating, according to the prevailing wave energy levels.

WASER

FIG. 1

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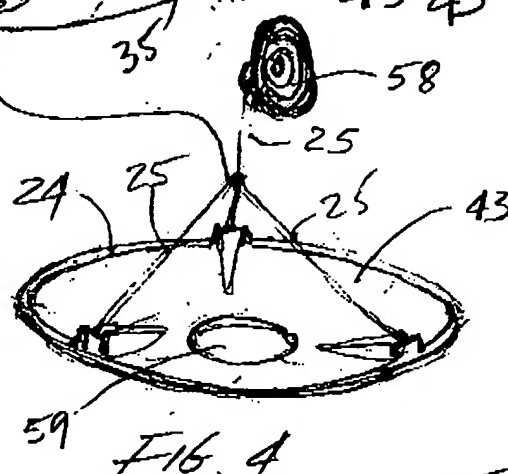
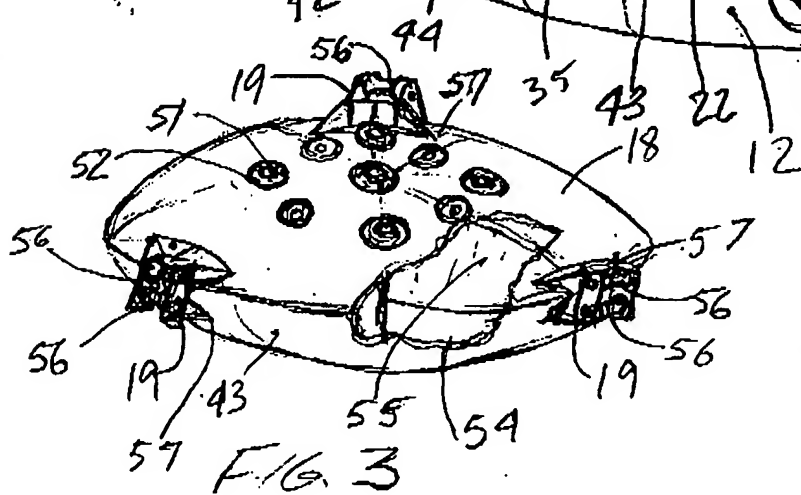
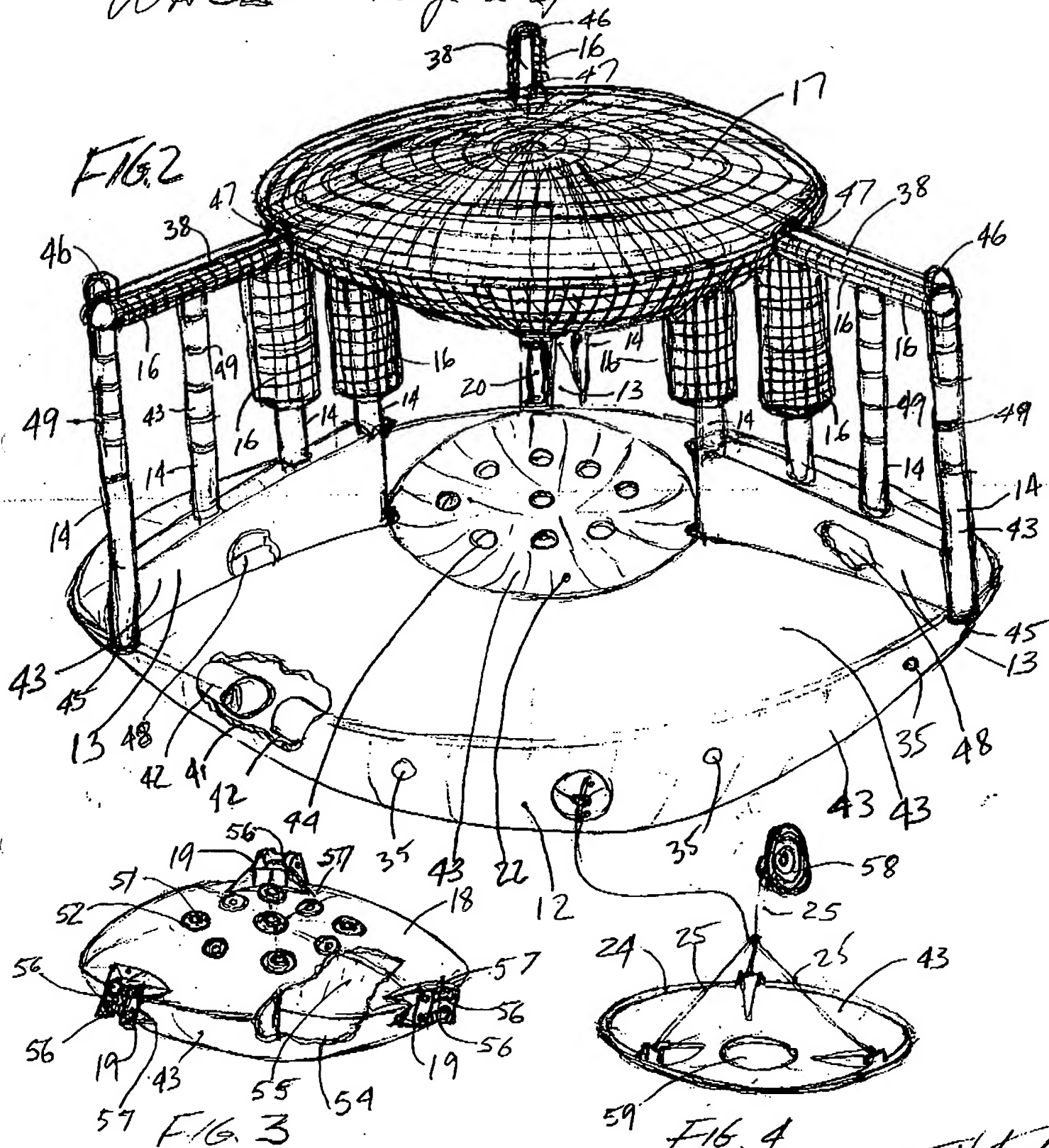
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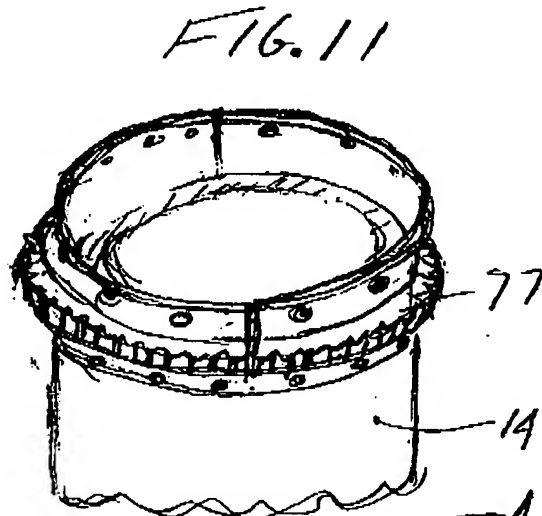
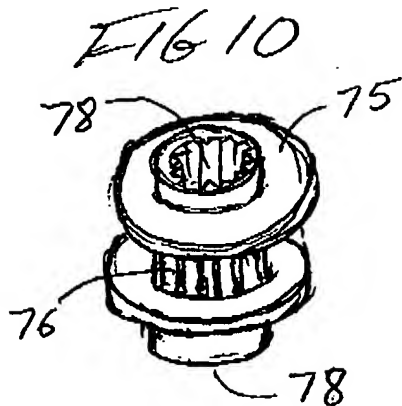
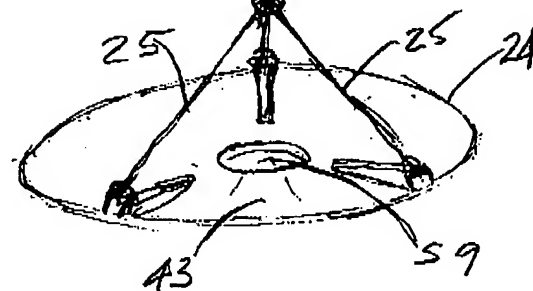
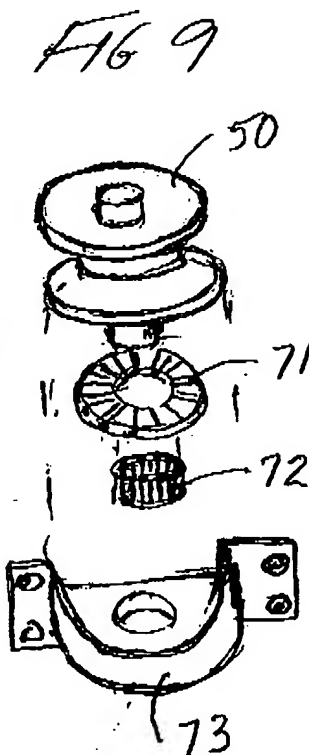
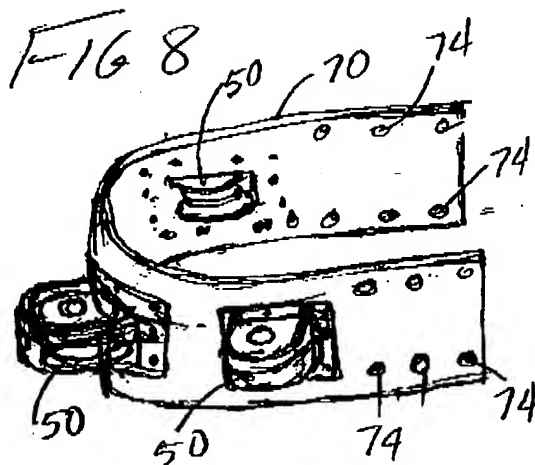
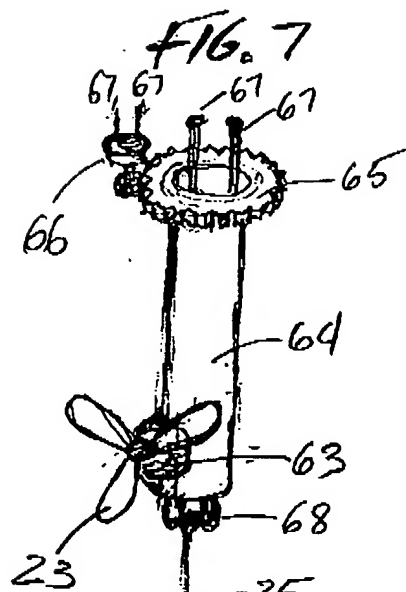
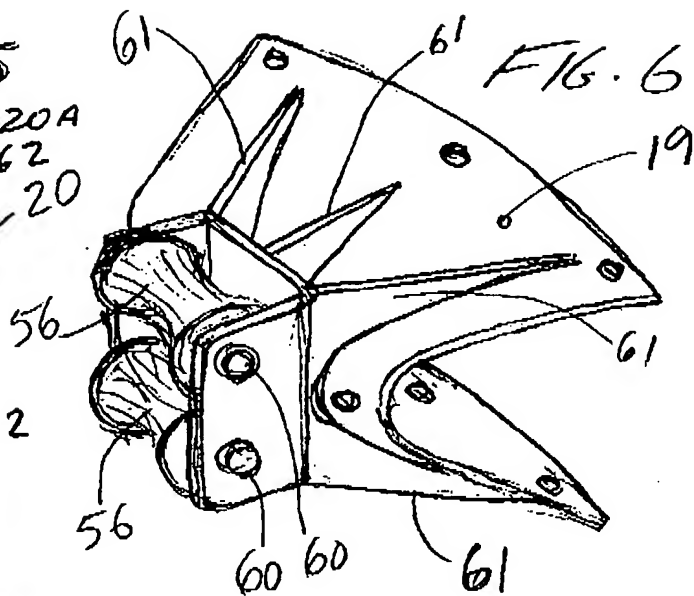
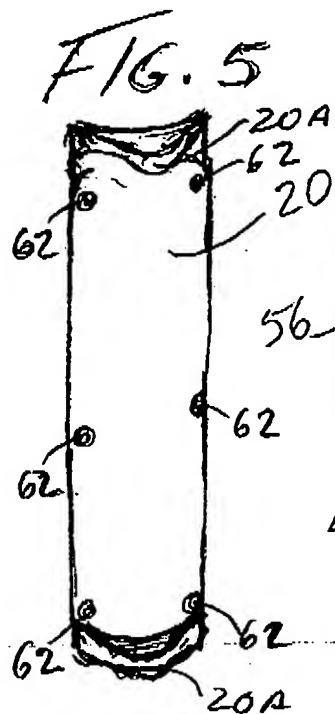
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FIG. 12

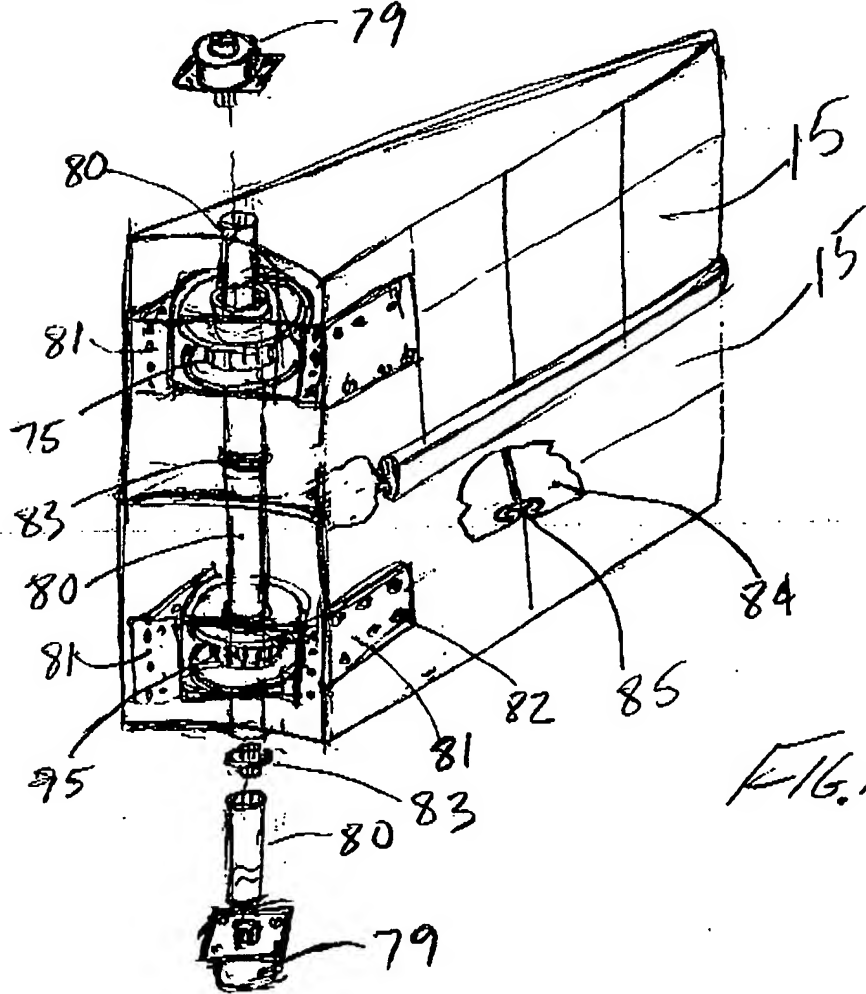


FIG. 13

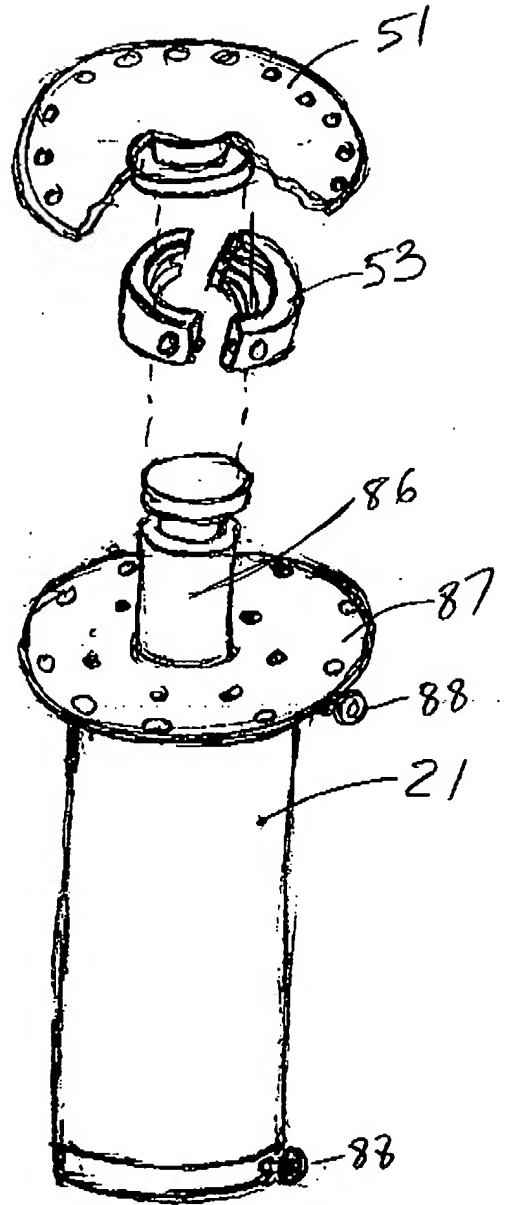
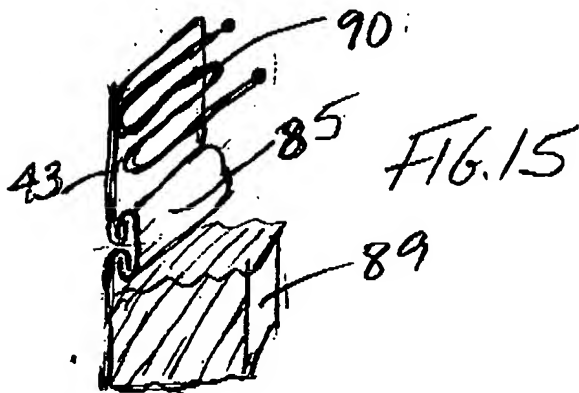


FIG. 14



F. Weber

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